



# SMS Under IOSA

(IATA Operational Safety Audit)

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# Agenda



- IOSA Programme Overview
- IOSA SMS Principles
- Implementation challenges



# IATA IN BRIEF

Global trade association for the world's Airlines

240 passenger and cargo carriers

84% of global air traffic

Founded in 1945 in Havana, Cuba



Our mission is to represent, lead and serve the airline industry. 

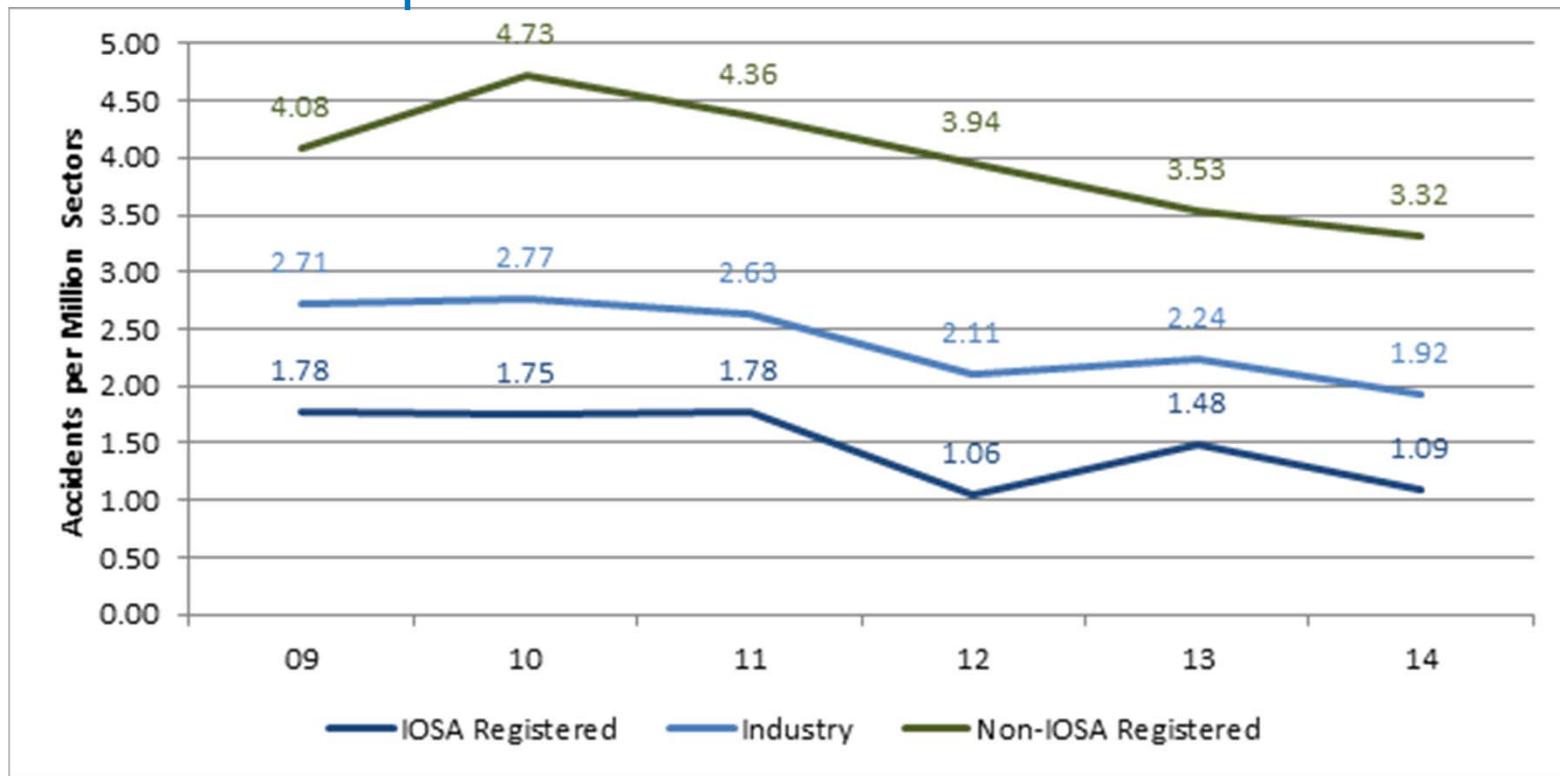


# IATA's Safety Goal

To lead the global airline commitment for continuous improvement in safety



## Safety Performance: All Accidents per Million Sectors





## **IOSA Program - Overview**

- Global Safety audit program managed and controlled by IATA
- Audit standards include ICAO safety and security provisions and industry best practices from ICAO Annexes 1, 2, 6, 8, 17, 18 and 19
- Available to all commercial passenger & cargo airlines, regardless of IATA membership status



## **IOSA Program – History**

- Program development was initiated in 2001
- After two years, IOSA was launched with first IOSA Audit conducted in September 2003

### **Some Highlights Since Inception**

- Upgrade of Standards to include all cargo operations and passenger flights without cabin crew
- In 2010, upgrade of Standards to incorporate all elements of SMS contained in the ICAO Framework for SMS

**Next Level → Enhanced IOSA**

## IOSA Program – Goals

- **Improve worldwide airline safety levels**
- Reduce the number of audits in airline industry



# Audit Scope

## IOSA

**ORG** – *Organization & Management System*

**FLT** – *Flight Operations*

**DSP** – *Flight Dispatch*

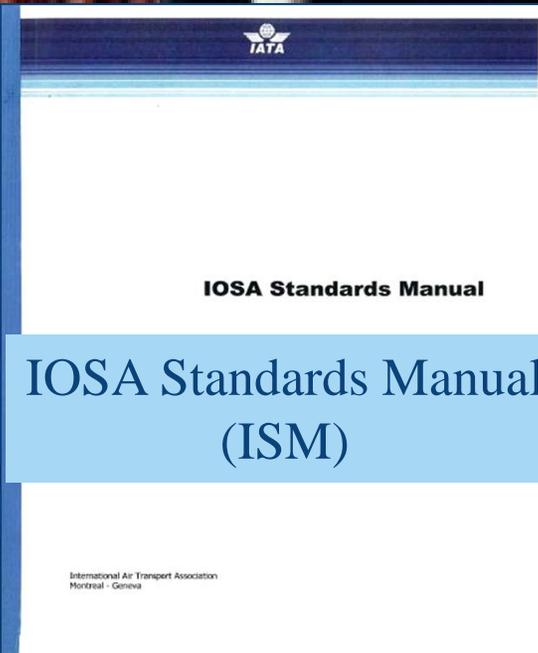
**MNT** – *A/C Engineering & Maintenance*

**CAB** – *Cabin Operations*

**GRH** – *Ground Handling*

**CGO** – *Cargo Operations*

**SEC** – *Operational Security*



***Bottom line: A well managed  
airline will meet IOSA Standards***



# Where does IOSA fit?

ICAO	FAA	Regulatory oversight
<ul style="list-style-type: none"><li>➤ <b>Fully complementary to USOAP</b> <i>ICAO 38th Assembly endorsed IOSA and its elements under Enhanced IOSA for its Global safety benefits.</i></li><li>➤ MoC on data sharing between IOSA and USOAP</li></ul>	<ul style="list-style-type: none"><li>➤ Accepted by FAA under DOT/FAA Code-share Safety Guidelines</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Not intended</b> to replace Regulatory Oversight</li><li>➤ Can most definitely <b>complement it</b></li><li>➤ Some states are mandating /recognizing IOSA as an acceptable means of compliance<ul style="list-style-type: none"><li>-Turkey, Chile, <b>Bahrain, Egypt, Lebanon, Syria</b>, Madagascar, Mexico, Brazil, Costa Rica, Panama</li><li>-Other States considering</li></ul></li></ul>



# Cross reference List

- IATA produces lists of cross reference of ISM to EASA regulations, FAA regulations and ICAO Annexes
- These lists are not official IOSA documentation
- The status of these lists is DRAFT
- They can be requested from IOSA Program Office

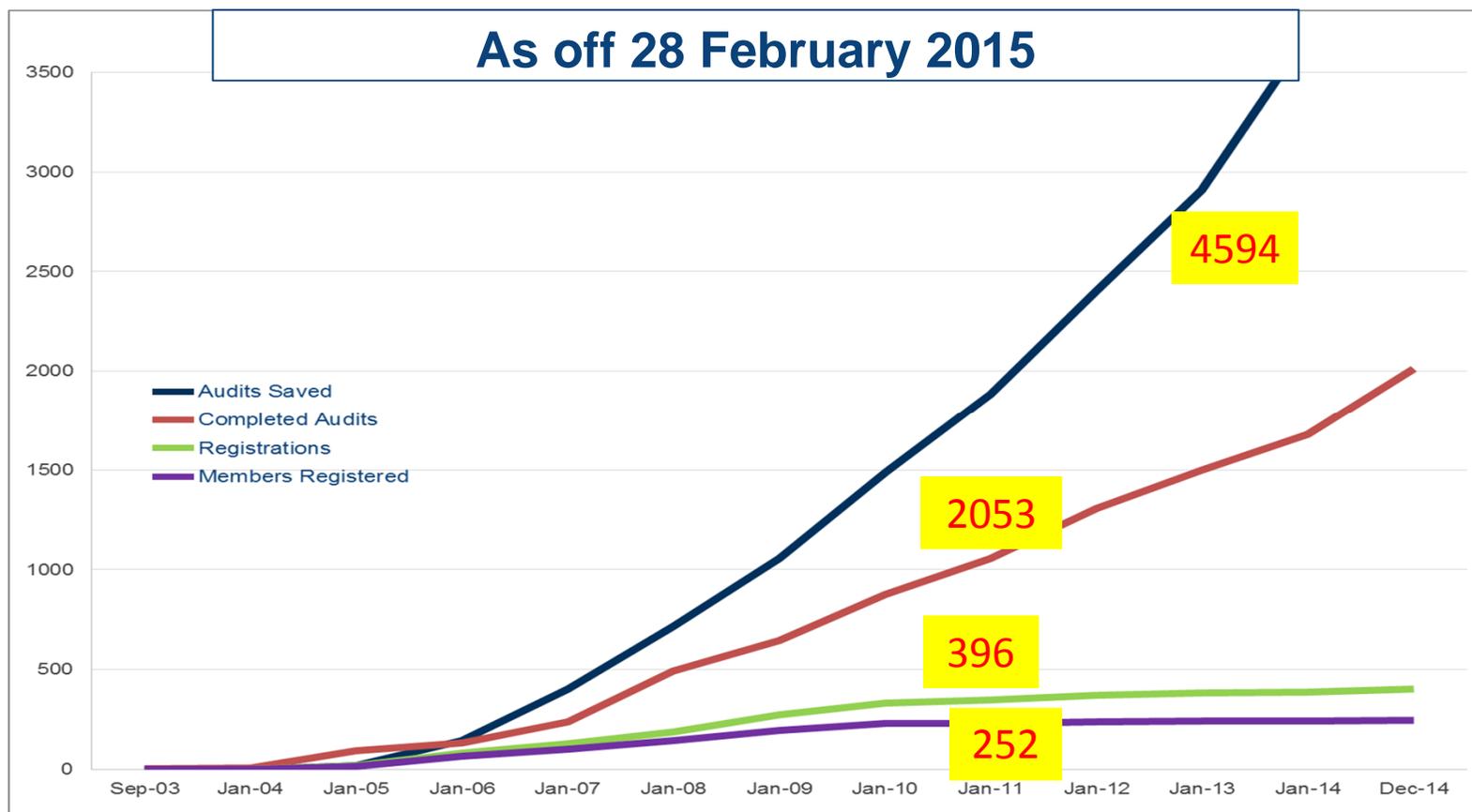
# IOSA Registered Airlines



as of 31 December 2014



# Audits Completed and Saved





# Enhanced IOSA

## Background

- Enhanced IOSA as response to industry's feedback
- Program change to focus on the implementation aspect of Standards and to ensure continuous conformity
- Implementation in transitioned approach until September 2015
- Enhanced IOSA applicable only to renewal audits





## Enhanced IOSA

### Priority

- In June 2013, IATA Board of Governors mandated E-IOSA for all IOSA Registered Airlines
- IATA provides support for airlines in incorporating the IOSA assessment process into internal QA programs
- As of 1 September 2015, all IOSA Registered Airlines must have fully incorporated Enhanced IOSA for their renewal audits



# Enhanced IOSA

## Four Pillars

The Enhanced IOSA is designed to ensure the four pillars.

**Continuous  
Conformity with  
IOSA Standards**

**Focus on  
Implementation of  
IOSA Standards**

**Reliability of  
Airline's Quality  
Assurance  
Functions**

**Auditing  
Standardization**



## Enhanced IOSA Pillars

### 1. Continuous Conformity

- The Operator will conduct internal audits against ISARPs under their quality assurance program during the 24 month period between the two renewal audits
- Shortly before the recurrent audit, the operator will submit a Conformance Report (CR) to the AO, as a record of internal assessments
- The CR is a “live document” that is continually updated to reflect the current status of conformity of the Operator



## Enhanced IOSA Elements

### 2. Focus on Implementation

- Through the CR, IOSA auditors will have additional information to confirm implementation
- Use of Auditor Actions will support the assessment of implementation
- Mandatory observations will be linked with specific ISARPs



## Enhanced IOSA Elements

### 3. Reliability of Quality Assurance

- Operator will strengthen its quality assurance through continuous internal assessments using the ISARPs
- AO will validate the internal audit result as part of the assessment of the operator's QA program
- Operator will qualify internal auditors to assess IOSA Standards



## Enhanced IOSA Elements

### 4. Auditing Standardization

- Increased level of standardization of airline internal QA auditing through use of:
  - Standardized online training for all airline internal auditors
  - Standardized auditing techniques throughout all operators including use of Auditor Actions

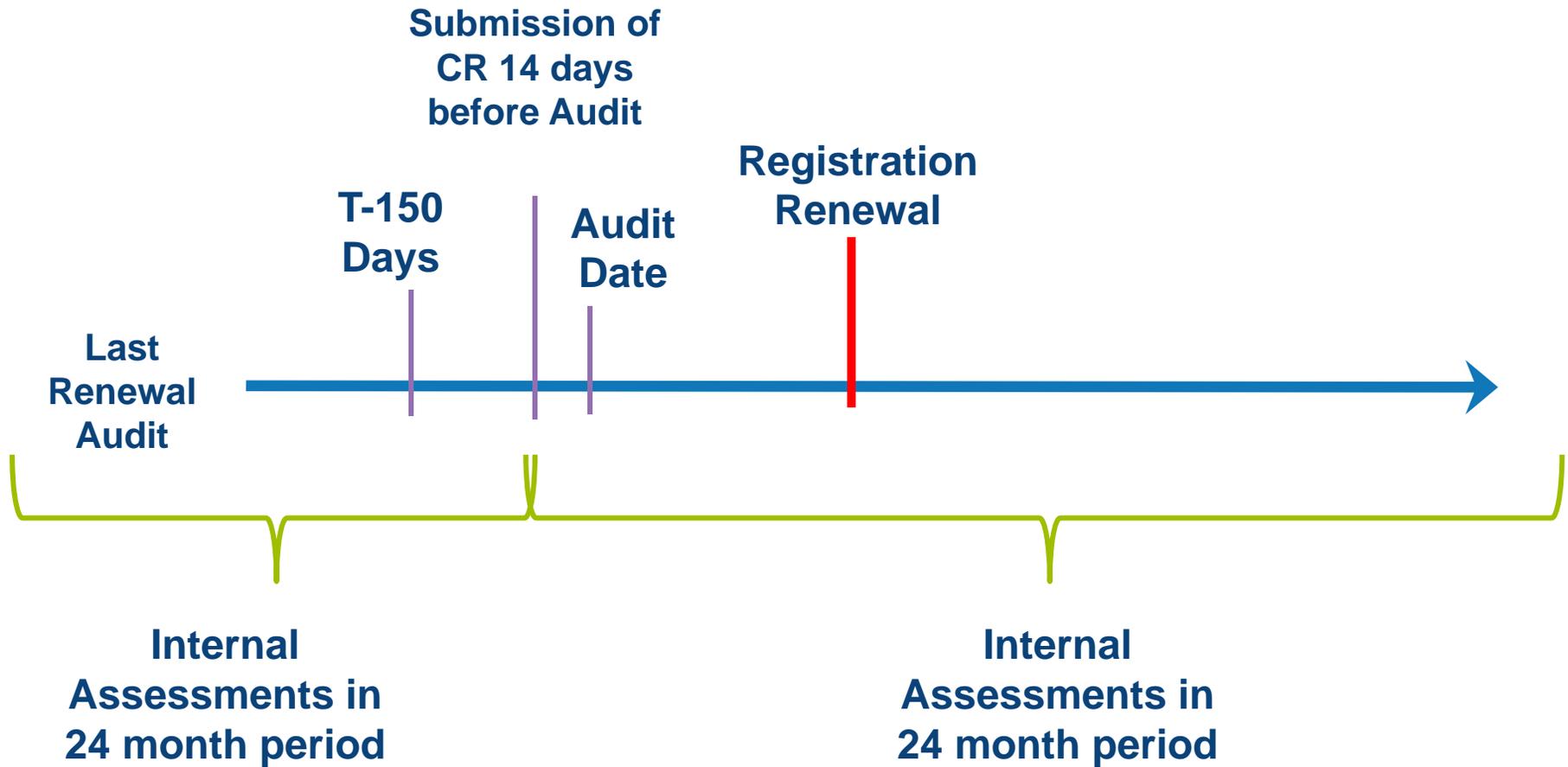


## IATA Assistance and Support

- Workshops in all IATA regions (one WS in MENA)
- Introduction of “Partnership for Quality” (PFQ) project, to provide support services to airline Quality Assurance Programs. (2 WSs in MENA)
- **23 Airlines** from MENA trained on QA principles



# Enhanced IOSA Process





# CR Template – Completion Examples

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
Section	ISARP	ISM Ed.7 TEXT (Reference Only)	Date of Last Audit	Name of Last Auditor	Documentation References	Assessment Status of Conformity (Select from dropdown menu)	Description of Nonconformity or Description of Reason for N/A	Root Cause	Corrective Action Taken	AA1	AA2	AA3	AA4	AA5	AA6	AA7	AA8	AA9	AA10	AA11	AA12	
ORG	11.1	ORG 11.1 The Operator shall have a management system that has continuity throughout the organization and ensures control of operations and management of safety and security outcomes. (GM) ORG 11.3 The Operator shall identify one senior management official as the Accountable Executive who is accountable for performance of the management system as specified in ORG 11.1 and, irrespective of other functions, has ultimate responsibility and accountability on behalf of the Operator for the implementation and maintenance of the safety management system (SMS) throughout the organization. i) Has the authority to ensure the allocation of resources necessary to manage safety and security risks to aircraft operations; ii) Has overall responsibility and is accountable for ensuring operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable ORG 11.4 as required by the State of the Operator (hereinafter, the State), the Operator shall have nominated officials within the management system that are acceptable to the Authority and have the responsibility, and thus are accountable, for ensuring, in their respective defined operational areas: i) The management of safety risks and security threats to aircraft operations; ii) Operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable regulations and standards of the Operator. (GM)	15-Aug-2011	John Smith	(OMA) Flv 02 Ch.7	Finding (Not Documented, Not Implemented)	continuity throughout the organization. Supervision and control is not ensured in the areas of Aircraft Engineering and Maintenance, Cabin Operations, Aircraft Ground Handling and Cargo Operations.	ownership and re-organization, some post-holder position in CAB, OPH and CGO were not occupied they were in a hiring process.	management personnel in Operations Control, Cabin Operations, Ground Handling, Cargo Operations and in Maintenance and Engineering. Appointments have been documented.													
ORG	11.3	ORG 11.3 The Operator shall identify one senior management official as the Accountable Executive who is accountable for performance of the management system as specified in ORG 11.1 and, irrespective of other functions, has ultimate responsibility and accountability on behalf of the Operator for the implementation and maintenance of the safety management system (SMS) throughout the organization. i) Has the authority to ensure the allocation of resources necessary to manage safety and security risks to aircraft operations; ii) Has overall responsibility and is accountable for ensuring operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable ORG 11.4 as required by the State of the Operator (hereinafter, the State), the Operator shall have nominated officials within the management system that are acceptable to the Authority and have the responsibility, and thus are accountable, for ensuring, in their respective defined operational areas: i) The management of safety risks and security threats to aircraft operations; ii) Operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable regulations and standards of the Operator. (GM)																				
ORG	11.4	ORG 11.4 The Operator shall have a safety management system (SMS) that is implemented and integrated throughout the organization to address the safety of aircraft operations. (SM) Note: Conformity with this provision is possible only when the Operator has achieved conformity with all standards and recommended practices that are identified by the [SMS] symbol. Note: Effective 1 September 2016, this recommended practice will be updated to a standard and superseded by ORG 11.10B. ORG 11.10B The Operator shall have an SMS that is	15-Aug-2011	John Smith	Quality Management Handbook, Ed.2 Ch.2.2.2	Conformity (Documented and Implemented)																
ORG	11.10A	ORG 11.10A The Operator shall have a safety management system (SMS) that is implemented and integrated throughout the organization to address the safety of aircraft operations. (SM) Note: Conformity with this provision is possible only when the Operator has achieved conformity with all standards and recommended practices that are identified by the [SMS] symbol. Note: Effective 1 September 2016, this recommended practice will be updated to a standard and superseded by ORG 11.10B. ORG 11.10B The Operator shall have an SMS that is	15-Aug-2011	John Smith		Observation (Not Documented, Not Implemented)	ABC Airlines' Safety Management System was not documented. Therefore, the implementation could not be verified.	Recent changes in management as well as the lack of a state safety plan led to the omission of installing an SMS.														

➤ Examples in CR Template show level of detail

➤ Should be consulted before completing the CR



# *IMX* Integrated management solution

- Intended for small and medium-size operators
- IMX functionality:
  - Audits & findings management
  - IOSA & ISAGO check lists
  - Risk assessment & root cause analysis
  - Production of E-IOSA Conformance Report
  - Safety reporting management
  - Data collection & analysis
  - Data exchange capability with STEADES & GDDB

# Aviation System is Complex

Industry and Governments must work together as “One world” – implementing and integrating a global Safety Management System with clear performance goals





# IATA Supports SMS Implementation

- Safety Data & Analysis Services,
- IATA Governance Committees,
- Leading cooperative SMS efforts between industry, ICAO and regulators,
- **IOSA Standards & Recommended Practices**



# IOSA SMS Principles

- Fundamental safety management concepts incorporated since the first edition of the ISM
- Identified as “requirements” in ORG Section
  - e.g. accountability, management review, policy, planning, communication, resources, quality management and processes and emergency response



## SMS For IOSA Registered Operators Today

- An IOSA operator will already have certain SMS elements in place
- Complete restructuring of management system not necessary
- Certain existing policies and procedures may need modification
- New processes likely needed in the area of safety risk management and safety assurance

Conformity with IOSA standards helps the transition to SMS



## ISM 8th Edition ~ The “SMS” IOSA

- Approximately 1000 ISARPs
- IATA has integrated all elements of ICAO SMS framework into IOSA
- The expanded auditing requirements appear in the IOSA Standards Manual (ISM) 8th Edition
- Incorporates all elements of the ICAO-mandated SMS framework (Annex 19).
- Effective 1 September 2014
- 68 SMS Standards provisions
- 50 provisions are currently designated as repeated provisions





## Key Components and Principles of IOSA SMS

- Conservative approach adopted for the introduction of SMS
- All IOSA SMS recommended practices will be upgraded to standards incrementally over a **four-year period** beginning with the publication of ISM Edition 7.
- Some SMS provisions designated as Recommended Practices
  - **Non-conformity results in an Observation**
- With the publication of ISM Edition 10, effective **1 September 2016**, all SMS recommended practices will have been upgraded to **standards**.



# SMS Designated ISARPs

<b>1. Overall SMS Control ISARP: assessed as a non-conformity if any other SMS ISARP is a non-conformity</b>						
ORG 1.1.10A						
<b>2. ORG ISARPs with hard-linked assessment requirements: assessed as a non-conformity if any other SMS ISARP same line is anon-conformity</b>						
ORG 3.1.1A	FLT 1.12.1A	DSP 1.12.1A	MNT 1.12.1A	CAB 1.11.1A	GRH 1.11.1A	CGO 1.11.1A
ORG 3.1.2A	FLT 1.12.2A	DSP 1.12.2A	MNT 1.12.2A	CAB 1.11.2A	GRH 1.11.2A	CGO 1.11.2A
ORG 3.1.3	FLT 1.12.3	DSP 1.12.3	MNT 1.12.3	CAB 1.11.3	GRH 1.11.3	CGO 1.11.3
ORG 3.2.1A	FLT 1.12.5 A	DSP 1.12.5A	MNT 1.12.5A	CAB 1.11.5A	GRH 1.11.5A	CGO 1.11.5A
ORG 1.6.5A	FLT 2.5.1A	DSP 2.5.1A	MNT 1.12.6A	CAB 2.4.1A	GRH 2.3.1A	CGO 2.3.1A
<b>3. ORG ISARPs which do not have additional assessment links.</b>						
ORG 1.1.3	ORG 1.1.12A	ORG 1.2.1	ORG 1.1.3A	ORG 1.3.1	ORG 1.4.2	ORG 1.5.2A
ORG 2.1.5A	ORG 3.2.2A	ORG 3.3.1	ORG 3.3.3	ORG 3.3.4	ORG 3.3.10	ORG 3.3.11
ORG 3.3.13	ORG 3.4.5	ORG 4.1.1	ORG 4.1.4A			
<b>4. Repeated ISARPs with no hard-linked SMS assessment requirement, but directly associated with the assessment for ORG 3.4.1 and ORG 3.4.4</b>						
ORG 3.4.1	FLT 1.10.1	DSP 1.10.1	MNT 1.10.1	CAB 1.9.1	GRH 1.9.1	CGO 1.9.1
ORG 3.4.4	FLT 1.10.3	DSP 1.10.3	MNT 1.10.3	CAB 1.9.3	GRH 1.9.3	CGO 1.9.3



## SMS Hard-Linked ISARPs

ORG 3.1.1A	FLT 1.12.1A	DSP 1.12.1A	MNT 1.12.1A	CAB 1.11.1A	GRH 1.11.1A	CGO 1.11.1A
ORG 3.1.2A	FLT 1.12.2A	DSP 1.12.2A	MNT 1.12.2A	CAB 1.11.2A	GRH 1.11.2A	CGO 1.11.2A
ORG 3.1.3	FLT 1.12.3	DSP 1.12.3	MNT 1.12.3	CAB 1.11.3	GRH 1.11.3	CGO 1.11.3
ORG 3.2.1A	FLT 1.12.5A	DSP 1.12.5A	MNT 1.12.5A	CAB 1.11.5A	GRH 1.11.5A	CGO 1.11.5A
ORG 1.6.5A	FLT 2.5.1A	DSP 2.5.1A	MNT 1.12.6A	CAB 2.4.1A	GRH 2.3.1A	CGO 2.3.1A
ORG 1.3.1	FLT 1.3.1	DSP 1.2.1	MNT 1.2.1	CAB 1.2.1	GRH 1.2.1	CGO 1.2.1
ORG 3.4.1	FLT 1.10.1	DSP 1.10.1	MNT 1.10.1	CAB 1.9.1	GRH 1.9.1	CGO 1.9.1
ORG 3.4.4	FLT 1.10.3	DSP 1.10.3	MNT 1.10.3	CAB 1.9.2	GRH 1.9.3	CGO 1.9.3

ORG 3.1.1A ~ Reactive & Proactive safety data data collection and analysis

ORG 3.1.2A ~ Safety risk assessment and mitigation program

ORG 3.1.3 ~ Operational safety reporting system

ORG 3.2.1 A~ Setting performance measures



## SMS Soft-Linked ISARPs

- Two primary QA standards, ORG 3.4.1 and 3.4.4, are repeated in all sections in the ISM, including SEC (interlinked ISARPs)

Note: The corresponding ISARPs in the SEC section are not designated as SMS, but will be audited as per the procedures below

- Assessment of these ORG ISARPs will only be confirmed after careful review of QA program functionality in all other disciplines, as per the procedures detailed in the IAH-A Section 5.2.5

<b>ORG</b>	<b>FLT</b>	<b>DSP</b>	<b>MNT</b>	<b>CAB</b>	<b>GRH</b>	<b>CGO</b>	<b>SEC</b>
<b>3.4.1 Quality Assurance System</b>	1.10.1	1.10.1	1.10.1	1.9.1	1.9.1	1.9.1	1.10.1
<b>3.4.4 Management review of Significant QA Issues</b>	1.10.3	1.10.3	1.10.3	1.9.2	1.9.3	1.9.3	1.10.3



# Safety Management System Implementation and Integration

ORG 1.1.10B The Operator **shall** have a safety management system (SMS) that is implemented and integrated throughout the organization to address the safety of aircraft operations. [SMS] (GM)

↗ Excerpt from Guidance Material

*“**Note:** Conformity with this provision is possible only when the Operator has achieved conformity with all standards and recommended practices that are identified by the **[SMS]** symbol.*

↗ **Note: Effective 1 September 2016, this standard supersedes **ORG 1.1.10A****



# ISARP Summary

- IOSA ISM Ed 8 firmly and specifically embraces the ICAO SMS Framework
- IOSA SMS standards will continue to evolve reflecting any ICAO changes
- An operator that meets all IOSA SMS standards and recommended practices will be considered as having a **baseline** SMS in place
- effective **1 September 2016**, all SMS recommended practices will have been upgraded to **standards**.
- ***Airlines not yet ready to fully incorporate SMS by 1 September 2016 risk losing their registration status***



# IOSA SMS Observations To Date

- Observations
  - Move from “shoulds” to “shalls” over the next 2 years would result in a significant increase in findings
  - Some operators are not ready
- Operator Challenges
  - Reluctant to implement an SMS program with no **SSP**
  - Interpretation of SMS ISARPs
- AO Challenges
  - Some admit difficulty with interpretation of ISARPs
  - Ongoing guidance and training for SMS ISARPs required

# In Summary - Safety requires A Joint Effort







# IATA Standard Safety Assessment (ISSA)

# ISSA Program

## Background

- Many operators are technically not eligible for an IOSA Audit because of:
  - Operating aircraft below 5,700Kg MTOW
  - Business model does not allow for conformity with IOSA requirements
- Because of vast amount of those operators, IATA decided to develop a new evaluation program for the industry called “IATA Standard Safety Assessment”

# ISSA Program

## Benefits

- Measuring operator's conformity with relevant ICAO Requirements and Industry Practices
- Gradual Implementation of SMS Elements
- Assessment completion provides eligibility for entry on ISSA Registry
- Improved marketing and commercial advantages



# ISSA Program

## Eligibility

- Commercial passenger and/or cargo operations
- Aircraft with one or more turbine powered and/or multiple reciprocating engines
- Single and/or Two-pilot operations
- IFR and/or VFR operations
- Aircraft with MTOW below 5700Kg
- Aircraft with MTOW above 5700Kg will be allowed on ISSA Registry for one term, after that need to go for IOSA

# ISSA Program

## Scope Exclusions

- Aircraft with single reciprocating engines
- Helicopters/ Seaplanes
- Any operator that is currently on the IOSA Registry
- Operators with no aircraft on the AOC (only wet-lease operations)

# ISSA Program

## Audit and Program Standards

- Audit Standards derived directly from all IOSA disciplines; emphasis on the Organization Management System
- Verification of both documentation and implementation required
- Approximately 116 Standards and Recommended Practices (subject to change)



# ISSA Program

## Assessment Conduct

- Initial assessment, followed by biennial renewal assessments
- Assessments planned to be conducted by two Auditors for two days
- Assessment follow-up (closure of findings) and registration period in alignment with IOSA

# ISSA Program

## Other Characteristics

The new assessment program will:

- not be linked, associated or conditional on IATA Membership
- be priced to suit the intended market
- be promoted and marketed in a manner that clearly defines and manages expectations, including a clear distinction from IOSA

# ISSA Program

## Cooperation and Audit Organizations

- Assessments will be performed by independent Audit Organizations
- Program will become operational in early 2015

# ISSA Program

## Next Steps

- 5 Beta-test assessments in first half of 2014
- Planned program launch in early 2015

